

B. Loeb

#9
BUL
2/13/01

OIEP

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/515,363DATE: 02/09/2001
TIME: 13:05:38Input Set : A:\ES.txt
Output Set: N:\CRF3\02092001\1515363.rawP.5
ENTERED

4 <110> APPLICANT: Fisher, Paul
 5 <120> TITLE OF INVENTION: Melanoma Differential Associated Gene-5 (mda-5), Promoter and uses
 6 <130> Hereof
 8 <130> FILE REFERENCE: 0575/60849
 10 <140> CURRENT APPLICATION NUMBER: 09/515,363
 11 <141> CURRENT FILING DATE: 2000-02-29
 13 <160> NUMBER OF SEQ ID NOS: 3
 15 <170> SOFTWARE: PatentIn version 3.0
 17 <211> SEQ ID NO: 1
 18 <211> LENGTH: 3365
 19 <212> TYPE: DNA
 20 <213> ORGANISM: Human
 22 <190> SEQUENCE: 1
 23 ggcgcgcggg ctgagagccc tgtggacaac ctgcctcattg tcaaggacac agcggttagac 60
 25 cctcctctct taagtgggca gccgacagcg gacgacacat ttcacctgtc cgcgcagacaa 120
 27 caccacatc tcttgggag aacctctctc ctctctcag aaagaaagat gtcgaaatgaa 180
 29 cctccacac aaagaaattt cccctctctc atctctcct tcaaggacac agtccacaaatg 240
 31 taccatccagg tggagccatg gctggaatcc ctgacatttc tgcctgcaga ggtggaaggag 300
 33 cagattccag ggaatctcgc cactcccggg aacatgcaga caattgaact gctcctcagc 360
 35 accttcagaa agaaatcttg acactctcct tggattcagg aattcctaga aggcctcagg 420
 37 agaaccggca ggcctctggc cgcgcctctc atggaacctg acctcaggaa cttcagctct 480
 39 ccaatcttgg agaagctcga ttatgaatat ctccaaatgc tgaacctcct tcaaccacat 540
 41 ctgctggaca agctctcagt tagagagctc ttggaatagt gaatgcagga ggaactcttg 600
 43 aaatttgaag acacaaaccc gattgctgct ccagaaacca atggaaatga atccggtctc 660
 45 agagagctac taaaaagcat tgtgcacaaa gaaacctggf tctctgcaat tctgaatggt 720
 47 cttctccaaa ccgcaaacaa tgaactcttc caaagcttaa caagctctga tctctcagaa 780
 49 agaatctcag agattgagaa ttctatcaca gttcattggc ctcaagtgaa agagtaactt 840
 51 ctttcaacca cagttcagca aaatctggag aaggaggtct cgggcatgga gaataactca 900
 53 tcaaatctat cttttgcaga ttctctcgtc gtttccgaat ccaacacaaag tttaacaaaa 960
 55 ggaactctca gctgcttaga tgaagctctt ggaatatac ccaacatgag caatgaattc 1020
 57 ggcacatctg aaagtgaatt agatgaagag aattatgcag caagagcctc cccggagcca 1080
 59 gacctcagc tcaagcctta ccaaatataa gttgcacagc cagccttggc aggaagaaat 1140
 61 atcatcact gctcctctac aaggagtgga aaacacagag taccatctta catccacaa 1200
 63 catcacttag acaagaagaa aaaaacatct caacctggaa aagttatagt tctctcact 1260
 65 aagttactgc taattgaaca gctcttcggc aaggagttcc aacctttt caataaatgg 1320
 67 tatcgtatta ttggattag tggtaatacc caatgaaaa taccatttcc agaaattctc 1380
 69 aattcctatg atattattat cagtaaaagt caaatcttg aaaaactcct cttaaatct 1440
 71 caaataggag aaatattctg tgttcaattg tcagaatttt cctcattat caattatgaa 1500
 73 tgtcactaca ccaacaaaaga agcagtttat aataacatca tgaagcata ttgattgag 1560
 75 aagttgaaca acaatagact caacaaagaa acaaaacacg taattccctt tctccagata 1620
 77 ctgggaataa caatttcacc tgggttggg ggggcacaga agcagacaa agctgaagaa 1680
 79 caatttttaa aactatctgc caatctaat gcaattcata ttgaaactgt taagagaagc 1740
 81 ctgtgacac tgaacaaaca aatcacaggag caatgcagga agtttgcata tgcacatgca 1800
 83 accagagaa atccatttaa agagaaactt ctagaataa tgaacaggat tcaaattat 1860
 85 tgcacaaatg atccaatgtc agattttgga acacaaacct atgaacatg accaatgaa 1920
 87 atgaaacaaa aactgcagaa aaaaaggaat ccaacaaaa atattctgac aggaatttta 1980
 89 aggaattaga atgaagcct acaaatcaat caacaaattc gaatgataga tcaatatact 2040

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/515,363

LA11: 02/05/2001
 TIME: 13:05:18

Input Set : A:\ES.txt
 Output Set: N:\CRF3\02092001\I515363.raw

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91 catcttgaaa cttctctataa tgaagagaaa gataagaaat ttacagtcac aaaaaatgat 2100
92 agtgaatgagc atgtataga taattatgtt gattgttatg aagatgagga taatttgaag 2160
93 aaccccttga aactggatga aaagataga ttctctatga ctttattttt tgaaaaacaa 2220
94 aaatgttga aaaggttggc taataacaa aaatagaaa atgaaagctt gacaaatga 2280
95 aaaaatacca taatagagaa atatactagg actaaggaat cagcaagaga aataatcttt 2340
101 aaaaaaacac gaacaaagtgc atatgtgtt ttccagtggc ttatgaaaa tgaaaaattt 2400
102 gctaaagtga gattgaaac ccacaaatgc attaaagctg gacacagaaq taatttcaaa 2460
103 ccaatgacac aaatgaaac aaagaaatc attagtaaa ttccactggc aaaaatgat 2520
104 ctgcttatgc ctccaaagt ggcagaagaa ggtctggaat ttaaaagaaq taacattgtt 2580
105 atccgttatg gttctatcac caatgaaata gccatggtcc aggcacctag tcaagcagaa 2640
111 gctgaataga gcaatcagc cctgttgtt cagagtgtt caggagttaa caaacatgag 2700
112 acagttaatg atttccaga gaagatgatg tataaagcta taatttatgt tcaaaatagc 2760
113 aaaaacagag aatctgtcaa taagattttg gaattacaaa tcaaaatgt attgaaag 2820
114 aaatgaaa ccaagaaac taatgaaag ctttacaaga aaacacatc aaataaat 2880
115 ttcttttga aaaaatcag tctctagcc ttcttgagg aagatatcc tgaattgag 2940
121 aaattgcatc aagtaatat gacccagaa ttcaagaaac ttacattgt aaaaataac 3000
122 aaacacatgc aaaaatcag tccaaatgt caaatgaaq atgaaatgt ctgaaatgt 3060
123 ggcagagctt ggcagaaat gattgtgac aaaggttag attgtgttg tctcaaaata 3120
124 aqaattttg taagtgttt caaaaataat tcaacaaaga aaaaatcag aaagtggga 3180
125 gaattaccta tcaatttcc caatctgac tattcagaat agtgtttat tagtgaatgag 3240
131 gattagcact tgaattgaga ttcttttaa atactatcac ttaaaattt aatatgatta 3300
132 tgattaatgt attcattatg ctacagaact gacataagaa tcaataaat gattatttt 3360
133 ccttg 3365
138 <210> SEQ ID NO: 2
139 <211> LENGTH: 331
140 <212> TYPE: PR1
141 <213> ORGANISM: Human
142 <400> SEQUENCE: 2
145 Ala Thr Gly Thr Cys Gly Ala Ala Thr Gly Gly Gly Thr Ala Thr Thr
146 1 5 10 15
147 Cys Cys Ala Cys Ala Gly Ala Cys Gly Ala Gly Ala Ala Thr Thr Thr
148 20 25 30
149 Cys Cys Gly Cys Thr Ala Thr Cys Thr Cys Ala Thr Cys Thr Cys Gly
150 35 40 45
151 Thr Gly Cys Thr Thr Cys Ala Gly Gly Gly Cys Cys Ala Gly Gly Gly
152 50 55 60
153 Thr Gly Ala Ala Ala Ala Thr Gly Thr Ala Cys Ala Thr Cys Cys Ala
154 65 70 75 80
155 Gly Gly Thr Gly Gly Ala Gly Cys Cys Thr Gly Thr Gly Cys Thr Gly
156 85 90 95
157 Gly Ala Cys Thr Ala Cys Cys Thr Gly Ala Cys Cys Thr Thr Thr Cys
158 100 105 110
159 Thr Gly Cys Cys Thr Gly Cys Ala Gly Ala Gly Gly Thr Gly Ala Ala
160 115 120 125
161 Gly Gly Ala Gly Cys Ala Gly Ala Thr Thr Cys Ala Gly Ala Gly Gly
162 130 135 140
163 Ala Cys Ala Gly Thr Cys Gly Cys Cys Ala Cys Cys Thr Cys Cys Gly
164 145 150 155 160
165 Gly Gly Ala Ala Cys Ala Thr Gly Cys Ala Gly Gly Cys Ala Gly Thr

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/515,363

DATE: 02/09/2001

TIME: 13:05:33

Input Set : A:\ES.txt

Output Set: N:\CRF3\02092001\I515363.raw

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176          165          170          175
176 Thr Gly Ala Ala Cys Thr Gly Cys Thr Gly Cys Thr Gly Ala Gly Cys
179          180          185          190
181 Ala Cys Cys Thr Thr Gly Gly Ala Gly Ala Ala Gly Gly Gly Ala Gly
182          185          200          205
184 Thr Cys Thr Gly Gly Cys Ala Cys Cys Thr Thr Gly Gly Thr Thr Gly
185          210          215          220
187 Gly Ala Cys Thr Cys Gly Gly Gly Ala Ala Thr Thr Cys Gly Thr Gly
188 225          230          235          240
190 Gly Ala Gly Gly Cys Cys Cys Thr Cys Cys Gly Gly Ala Gly Ala Ala
191          245          250          255
193 Cys Cys Gly Gly Cys Ala Gly Cys Cys Cys Thr Cys Thr Gly Gly Cys
194          260          265          270
196 Cys Gly Cys Cys Cys Gly Cys Thr Ala Cys Ala Thr Gly Ala Ala Cys
197          275          280          285
199 Cys Cys Thr Gly Ala Gly Cys Thr Cys Ala Cys Gly Gly Ala Cys Thr
200          290          295          300
202 Thr Gly Cys Cys Cys Thr Cys Thr Cys Cys Ala Thr Cys Gly Thr Thr
203 305          310          315          320
205 Thr Gly Ala Gly Ala Ala Cys Gly Cys Thr Cys Ala Thr Gly Ala Thr
206          325          330          335
208 Gly Ala Ala Thr Ala Thr Cys Thr Cys Cys Ala Ala Cys Thr Gly Cys
209          340          345          350
211 Thr Gly Ala Ala Cys Cys Thr Cys Cys Thr Thr Cys Ala Gly Cys Cys
212          355          360          365
214 Cys Ala Cys Thr Cys Thr Gly Gly Thr Gly Gly Ala Cys Ala Ala Gly
215          370          375          380
217 Cys Thr Thr Cys Thr Ala Gly Thr Thr Ala Gly Ala Gly Ala Cys Gly
218 385          390          395          400
220 Thr Cys Thr Thr Gly Gly Ala Thr Ala Ala Gly Thr Gly Cys Ala Thr
221          405          410          415
223 Gly Gly Ala Gly Gly Ala Gly Gly Ala Ala Cys Thr Gly Thr Thr Gly
224          420          425          430
226 Ala Cys Ala Ala Thr Thr Gly Ala Ala Gly Ala Cys Ala Gly Ala Ala
227          435          440          445
229 Ala Cys Cys Gly Gly Ala Thr Thr Gly Cys Thr Gly Cys Thr Gly Cys
230          450          455          460
232 Ala Gly Ala Ala Ala Ala Cys Ala Ala Thr Gly Gly Ala Ala Ala Thr
233 465          470          475          480
235 Gly Ala Ala Thr Cys Ala Gly Gly Thr Gly Thr Ala Ala Gly Ala Gly
236          485          490          495
238 Ala Gly Cys Thr Ala Cys Thr Ala Ala Ala Ala Ala Gly Gly Ala Thr
239          500          505          510
241 Thr Gly Thr Gly Cys Ala Gly Ala Ala Ala Gly Ala Ala Ala Ala Cys
242          515          520          525
244 Thr Gly Gly Thr Thr Cys Thr Cys Thr Gly Cys Ala Thr Thr Thr Cys
245          530          535          540
247 Thr Gly Ala Ala Thr Gly Thr Thr Cys Thr Thr Cys Gly Thr Cys Ala
248 545          550          555          560

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/515,363

DATE: 02/07/2001

TIME: 15:37:28

Input Set : A:\ES.txt

Output Set: N:\CRF3\02092001\I515363.raw

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250 Ala Ala Cys Ala Gly Gly Ala Ala Ala Cys Ala Ala Thr Gly Ala Ala
251                               565                               570                               575
253 Cys Thr Thr Gly Thr Cys Cys Ala Ala Gly Ala Gly Thr Thr Ala Ala
254                               580                               585                               590
256 Cys Ala Gly Gly Cys Thr Cys Thr Gly Ala Thr Thr Gly Cys Thr Cys
257                               595                               600                               605
259 Ala Gly Ala Ala Ala Gly Cys Ala Ala Thr Gly Cys Ala Gly Ala Gly
260                               610                               615                               620
262 Ala Thr Thr Gly Ala Gly Ala Ala Thr Thr Thr Ala Thr Cys Ala Cys
263 625                               630                               635                               640
265 Ala Ala Gly Thr Thr Gly Ala Thr Gly Gly Thr Cys Cys Thr Cys Ala
266                               645                               650                               655
268 Ala Gly Thr Gly Gly Ala Ala Gly Ala Gly Cys Ala Ala Cys Thr Thr
269                               660                               665                               670
271 Cys Thr Thr Thr Cys Ala Ala Cys Cys Ala Cys Ala Gly Thr Thr Cys
272                               675                               680                               685
274 Ala Gly Cys Cys Ala Ala Ala Thr Cys Thr Gly Gly Ala Gly Ala Ala
275                               690                               695                               700
277 Gly Gly Ala Gly Gly Thr Cys Thr Gly Gly Gly Gly Cys Ala Thr Gly
278 705                               710                               715                               720
280 Gly Ala Gly Ala Ala Thr Ala Ala Cys Thr Cys Ala Thr Cys Ala Gly
281                               725                               730                               735
283 Ala Ala Thr Cys Ala Thr Cys Thr Thr Thr Thr Gly Cys Ala Gly Ala
284                               740                               745                               750
286 Thr Thr Cys Thr Thr Cys Thr Gly Thr Ala Gly Thr Thr Thr Cys Ala
287                               755                               760                               765
289 Gly Ala Ala Thr Cys Ala Gly Ala Cys Ala Cys Ala Ala Gly Thr Thr
290                               770                               775                               780
292 Thr Gly Gly Cys Ala Gly Ala Ala Gly Gly Ala Ala Gly Thr Gly Thr
293 785                               790                               795                               800
295 Cys Ala Gly Cys Thr Gly Cys Thr Thr Ala Gly Ala Thr Gly Ala Ala
296                               805                               810                               815
298 Ala Gly Thr Cys Thr Thr Gly Gly Ala Cys Ala Thr Ala Ala Cys Ala
299                               820                               825                               830
301 Gly Cys Ala Ala Cys Ala Thr Gly Gly Gly Cys Ala Gly Thr Gly Ala
302                               835                               840                               845
304 Thr Thr Cys Ala Gly Gly Cys Ala Cys Cys Ala Thr Gly Gly Gly Ala
305                               850                               855                               860
307 Ala Gly Thr Gly Ala Thr Cys Ala Gly Ala Thr Gly Ala Ala Gly
308 865                               870                               875                               880
310 Ala Gly Ala Ala Thr Gly Thr Gly Gly Cys Ala Gly Cys Ala Ala Gly
311                               885                               890                               895
313 Ala Gly Cys Ala Thr Cys Cys Cys Cys Gly Gly Ala Gly Cys Cys Ala
314                               900                               905                               910
316 Gly Ala Ala Cys Thr Cys Cys Ala Gly Cys Thr Cys Ala Gly Gly Cys
317                               915                               920                               925
319 Cys Thr Thr Ala Cys Cys Ala Ala Ala Thr Gly Gly Ala Ala Gly Thr
320                               930                               935                               940
322 Thr Gly Cys Cys Cys Ala Gly Cys Cys Ala Gly Cys Cys Thr Thr Gly

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RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/515,363

DATE: 02/18/2001
 TIME: 13:25:38

Input Set : A:\ES.txt
 Output Set: N:\CRF3\02092001\I515363.raw

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323 945          950          955          960
324 Gly Ala Ala Gly Gly Gly Ala Ala Gly Ala Thr Ala Thr Cys Ala
325          965          970          975
326 Thr Cys Ala Thr Cys Thr Gly Cys Cys Thr Cys Cys Cys Thr Ala Cys
327          980          985          990
328 Ala Gly Gly Gly Ala Gly Thr Gly Gly Ala Ala Ala Ala Ala Cys Cys
329          995          1000          1005
330 Ala Gly Ala Gly Thr Gly Gly Cys Thr Gly Thr Thr Thr Ala Cys
331          1010          1015          1020
332 Ala Thr Thr Gly Cys Cys Ala Ala Gly Gly Ala Thr Cys Ala Cys
333          1025          1030          1035
334 Thr Thr Ala Gly Ala Cys Ala Ala Gly Ala Ala Gly Ala Ala Ala
335          1040          1045          1050
336 Ala Ala Ala Gly Cys Ala Thr Cys Thr Gly Ala Gly Cys Cys Thr
337          1055          1060          1065
338 Gly Gly Ala Ala Ala Ala Gly Thr Thr Ala Thr Ala Gly Thr Thr
339          1070          1075          1080
340 Cys Thr Thr Gly Thr Cys Ala Ala Thr Ala Ala Gly Gly Thr Ala
341          1085          1090          1095
342 Cys Thr Gly Cys Thr Ala Gly Thr Thr Gly Ala Ala Cys Ala Gly
343          1100          1105          1110
344 Cys Thr Cys Thr Thr Cys Cys Gly Cys Ala Ala Gly Gly Ala Gly
345          1115          1120          1125
346 Thr Thr Cys Cys Ala Ala Cys Cys Ala Thr Thr Thr Thr Thr Gly
347          1130          1135          1140
348 Ala Ala Gly Ala Ala Ala Thr Gly Gly Thr Ala Thr Cys Gly Thr
349          1145          1150          1155
350 Gly Thr Thr Ala Thr Thr Gly Gly Ala Thr Thr Ala Ala Gly Thr
351          1160          1165          1170
352 Gly Gly Thr Gly Ala Thr Ala Cys Cys Cys Ala Ala Cys Thr Gly
353          1175          1180          1185
354 Ala Ala Ala Ala Thr Ala Thr Cys Ala Thr Thr Thr Cys Cys Ala
355          1190          1195          1200
356 Gly Ala Ala Gly Thr Thr Gly Thr Cys Ala Ala Gly Thr Cys Cys
357          1205          1210          1215
358 Thr Gly Thr Gly Ala Thr Ala Thr Thr Ala Thr Cys Ala Gly Thr
359          1220          1225          1230
360 Ala Cys Ala Gly Cys Thr Cys Ala Ala Ala Thr Cys Cys Thr Thr
361          1235          1240          1245
362 Gly Ala Ala Ala Ala Cys Thr Cys Cys Cys Thr Cys Thr Thr Ala
363          1250          1255          1260
364 Ala Ala Cys Thr Thr Gly Gly Ala Ala Ala Ala Thr Gly Gly Ala
365          1265          1270          1275
366 Gly Ala Ala Gly Ala Thr Gly Cys Thr Gly Gly Thr Gly Thr Thr
367          1280          1285          1290
368 Cys Ala Ala Thr Thr Gly Thr Cys Ala Gly Ala Cys Thr Thr Thr
369          1295          1300          1305
370 Thr Cys Cys Cys Thr Cys Ala Thr Thr Ala Thr Cys Ala Thr Thr
371          1310          1315          1320

```

PSI

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

VERIFICATION SUMMARY

PATENT APPLICATION N: US/09/515,363

DATE: 02/01/2001

TIME: 12:00:30

Input Set : A:\ES.txt

Output Set: N:\CRF3\02092001\I515363.raw

L:790 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#13